

WHAT IS CLAIMED IS:

1. A manufacturing method of a gusset bag having front and back surfaces composed of a pair of flat surfaces opposed to each other, and sides composed of pleat-shaped side surfaces connecting the side edges of the both flat surfaces and tucked in the both flat surfaces, comprising:

a step of separating and transferring a pair of flat films composing said pair of flat surfaces; a step of inserting side films between said pair of flat films so as to extend in a direction perpendicular to the transfer direction of said flat films and forming the side surfaces of said gusset bag; a step of forming a strip-shaped film by placing said pair of flat films opposed to each other; a step of sealing said flat films and said side films; a step of forming an open surface at least at an end of said side films and said flat films by tucking in said side film at a gore crease from a point on the crease selected as a base point to an end of the side film in a direction counter to the original tucking direction, and tucking in said side film at lines connecting the two corners at ends of the side film or the proximity thereof and said base point in an inward direction of said gusset bag to form a convex edge, thereby forming an open surface at least at an end of each of said side film and said flat film; and a step of cutting said strip-shaped film along a prescribed cutting line.

2. A manufacturing method of a gusset bag according to claim 1, further comprising a step of attaching a zipper extending in a direction in parallel with the transfer direction of said flat film to an end of said flat film; and a step of sealing together said zipper and said flat film.

3. A manufacturing method of a gusset bag according to claim 1, further comprising a step of attaching, to an end of said flat film, a V-shaped bottom film which extends in a direction in parallel with the transfer direction of said flat film and forms a bottom surface of said gusset bag; and a step of sealing together said bottom film and said flat film.

4. A manufacturing method of a gusset bag according to any one of claims 1 to 3, wherein:

said open surface is formed at each end of said side film and said flat film; and

said strip-shaped film is cut along a prescribed cutting line so as to form gusset bags in two rows to the left and the right.

5. A manufacturing method of a gusset bag according to claim 1, wherein said step of forming said open surface comprises:

a step of forming open surfaces at the both ends of said side film and said flat film;

attaching a zipper, to one end of said flat film, extending in a direction in parallel with the transfer direction of said flat film; and

attaching, to the other end of said flat film, a V-shaped bottom film which extends in a direction in parallel with the transfer direction of said flat film, and forms a bottom surface of said gusset bag; and

a step of sealing together said zipper and said flat film, on the one hand,

and said bottom film and said flat film, on the other hand.

6. A manufacturing method of a gusset bag according to any one of claims 1 to 5, wherein said side film forms side surfaces of two gusset bags located adjacent each other in front and back in the transfer direction of said flat film.

7. A manufacturing method of a gusset bag according to claim 6, wherein said side film comprises a combination of two V-shaped films opposed to each other.

8. A manufacturing method of a gusset bag according to claim 6, wherein said side film is composed by tucking in the both ends of a rectangular film so that the both ends of said film are located at the center line of said film.

9. A manufacturing method of a gusset bag according to claim 6, wherein said side film is composed by crushing a tubular film.

10. A manufacturing method of a gusset bag according to claim 6, wherein said side film is composed by combining boat-shaped films opposed to each other, prepared by folding a rectangular film at the center line, forming a bottom crease, tucking in said film at said crease from a point on the crease selected as a base point to an end of the film in a direction counter to the

original tucking direction, and tucking in said film at lines connecting the two corners at ends of the film or the proximity thereof and said base point in an inward direction of said gusset bag to form a convex edge; and

said open surface is formed on said previously folded boat-shaped film.

11. A manufacturing apparatus of a gusset bag having front and back surfaces composed of a pair of flat surfaces opposed to each other, and sides composed of pleat-shaped side surfaces connecting the side edges of the both flat surfaces and tucked in the both flat surfaces, comprising:

a transfer unit for separating and transferring a pair of flat films for forming said pair of flat surfaces of said bag; a side film inserting unit for inserting side films between said pair of flat films so as to extend in a direction perpendicular to the transfer direction of said flat films; a film placing unit for forming a strip-shaped film by placing said pair of flat films opposed to each other; a side film sealing unit for sealing said flat films and said side films; an open surface forming unit for forming an open surface at least at an end of said side films and said flat films by tucking in said side film at a gore crease from a point on the crease selected as a base point to an end of the side film in a direction counter to the original tucking direction, and tucking in said side film at lines connecting two corners at ends of the said side film or the proximity thereof and said base point in an inward direction of said gusset bag to form a convex edge; thereby forming an open surface at least at an end of each of said side film and said flat film; and a cutting unit for cutting said strip-shaped film along a prescribed cutting line.